

Assessment of Knowledge, Attitude & Practice of Health Professionals towards Post Exposure Prophylaxis of HIV/AIDS in Woldia General Hospital, Woldia, North-Eastern Ethiopia.

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ABSTRACT:

HIV constitutes one of the most difficult challenges facing the healthcare profession today. As the prevalence of the HIV infection continues to rise, healthcare workers in all geographic regions can expect greater clinical exposure to patients with HIV/AIDS. Lack of knowledge, attitude as well as practice over post exposure prevention of HIV/AIDS is the major problem in health professionals in the medical world. A significant number of health professionals are exposed for HIV/AIDS infection during their routine daily activity in relation to their contact with patient in their work place. It is common in the Hospital emergency room when they try to stabilize the injured patient, for paramedics when they try to transport the patient to hospital and other many situations. This study is designed to assess knowledge, attitude and practice of health professionals on post exposure prevention of HIV/AIDS. Observational and interview based cross sectional study was conducted on assessment of Knowledge, attitude and practice (KAP) of health professionals on post exposure prophylaxis (PEP) from April 30, 2015-May 30, 2015. The Knowledge and attitude of health professionals on PEP were assessed using structured questionnaires interview and the practice was assessed by direct observation of health professionals in their work place. A total of 123 health care workers were required to fill the questionnaire but only 106 were filled. So that 13.28% was the non-response rate of this study. The findings of this study revealed the gap that knowledge as well as practice of health care workers towards PEP for HIV is inadequate.

Key words: HIV/AIDS, Knowledge, Attitude, Practice, Post exposure prophylaxis.

INTRODUCTION:

AIDS which is caused by the human immune virus remains a real treat to the health and socio economic wellbeing of most nations of the world. The first recognized cases of HIV/AIDS occurred amongst young homosexual males in USA and reported on the 5th Jun 1981 in the morbidity and mortality weekly reported produced by the center of disease control (CDC) In Atlanta, Georgia. Soon after a new disease that affects the immune system causing weight loss and diarrhea was identified in central Africa in heterosexual peoples. Sub-Saharan Africa remains the worst affected region by the pandemic [1].

Post-exposure prophylaxis (PEP) is any prophylactic treatment started immediately after exposure to a pathogen (such as a disease-causing virus), in order to prevent infection by the pathogen and the development of disease. [2]

In the case of HIV infection, post-exposure prophylaxis is a course of antiretroviral drugs which is thought to reduce the risk of sero-conversion after events with high risk of exposure to HIV (e.g., unprotected anal or vaginal sex, needle stick injuries or sharing needles). [2]

To be most effective, treatment should begin within an hour of possible infection and no longer than 72 hours post-exposure. Prophylactic treatment for HIV typically lasts four weeks. [2]

While there is compelling data to suggest that PEP after HIV exposure is effective, there have been cases where it has failed. Failure has often been attributed to the delay in receiving treatment, the level of exposure (i.e., the viral load received), or both. However, for non-occupational exposures, the time and level of exposure are based on patient-supplied information; absolute data is therefore

unavailable. PEP can also slow down the development of antibodies, potentially causing false negatives on a later HIV test. Doctors will advise patients who received PEP to get a test at 6 months post-exposure as well as the standard 3 month test. [2]

PEP works by preventing HIV from reproducing before HIV infection can be established in a person's body. As with other medications, it is important to take the pills as stated to maintain the right amount of the medication in the patient's bloodstream at all times. This will mean that the medication will be as effective as possible. PEP works best when taken at the right dose, at the right time, without missing doses. [2]

Based on AIDS in Ethiopia 6th reports taken from voluntary counseling and testing service centers, blood banks, and antiretroviral therapy programs, the cumulative number of people living with HIV/AIDS (PLWHA) is about 1.32 million (45% male and 55% female). This results in a prevalence rate of 3.5% (3% among males and 4% among females; 10.5% urban and 1.9% rural areas) for the total estimated population of 73 million. The estimated number of new adult AIDS cases was 137,499. The number of new human immunodeficiency virus infections was 128,922 (353 per day) including 30,338 human immunodeficiency virus-positive births. Females accounted for 53.2% of new infections [3].

A cross-sectional survey conducted in Jimma zone, Oromiya region, southwest Ethiopia, showed that, among the total 254 participants, 174 (68.5%) had ever been exposed to HIV risk conditions. Out of 174 health workers exposed to human immunodeficiency virus risk, 105 (60.3%) sustained needle prick/cut by sharps, 77 (44.3%) to blood, and 68 (39.1%) exposed to patients' body fluid. Perceived causes of exposure were high workload 77 (44.3%), lack of protective barriers 58 (33.3%), and lack of knowledge on standard precautions 31 (17.8%) [1].

A survey conducted among Serbian healthcare workers depicted that 90% of them carried out

some form of intervention with risk of human immunodeficiency virus infection and 70% of them perceived there to be high professional risk of acquiring human immunodeficiency virus infection. Finding from that study showed that, within one year, 59% of healthcare workers had skin contact with patient blood followed by needle stick injuries in 51% cut from sharp instrument in 38% and contact of eye and other mucosa with patients' blood in 34%.

Seventeen percent of healthcare workers protected from injury by using appropriate barriers such as glove, glasses, gown, and mask. Nearly 80% of respondents had not been informed about guidelines for protection against human immunodeficiency virus. It was found that perception of professional's risk of acquiring human immunodeficiency virus infection was associated with every day practice, and has higher among healthcare workers who were exposed to patients' blood and other body fluids [1].

In order to do their jobs safely and effectively, health professionals must be provided with adequate supplies of essential protective materials and adequate training to increase their knowledge, attitude and practice. Further, the lack of basic medications and protective materials hampers the ability of health professionals to provide appropriate treatment and to take appropriate precaution to protect themselves from exposure to the virus during their daily activity. Without these materials and training, it is unlikely to take appropriate measure to protect the health care professionals from being exposed to HIV/AIDS and to protect them if they are already exposed to the infection (post exposure prophylaxis [5, 6].

The significance of PEP study will be to fill the gap on the KAP of health care professionals for HIV/AIDS prevention and treatment amongst the health professionals in Woldia General Hospital. The study may help organization, working on PEP provision, what knowledge, attitude and practice of health professionals have and plan accordingly. Healthcare

workers in Ethiopia have inadequate knowledge of risky occupational activities, as well as, on the advantage of personal protective equipment and universal precaution during service provision, so that this study will be the source of information for future researchers. The objective of this study is to assess the knowledge, attitude, practice and associated factors towards PEP in health care professionals in Woldia General Hospital.

METHODOLOGY

The study was conducted in Woldia general hospital, located in Woldia town, Amhara region in Northeast Ethiopia. Descriptive cross sectional study were conducted. The study populations were health care professionals

(nurses, midwifery, Doctors, health officers, pharmacy professionals and laboratory professionals). Before data collection, detail information was given about the objective and the benefit of the study to the participant to participate based on their consent. The data were collected using direct observation, structured and pretested questionnaire and interview. The data was entered to Epi-info 7 and analyzed by using SPSS version 16. Chi-square and P value were calculated. P-values <0.05 were considered as statistically significant. The results were presented via tables and graphs.

Table-1 Socio demographic characteristics of health care workers in Woldia General Hospital, Woldia, 2015

Variable	Frequency (%) (n=106)
Age of respondent	20-30 years
	71 (67.0)
	31-40 year
	25 (23.6)
Sex	41-50 year
	8(7.5)
	50-60 year
	2 (1.9)
Work experience	Male
	67 (63)
	Female
	39 (37)
Marital status	<5year
	49 (46.2)
	6-10 year
	31 (29.2)
Religion	11-15 year
	23 (21.7)
	>16 year
	3 (2.8)
Profession	Married
	59 (55.7)
	Single
	40 (37.7)
Ethnicity	Divorced
	5 (4.7)
	Widowed
	2 (1.9)
	Orthodox Christian
	80 (75.5)
	Protestant Christian
	4 (3.8)
	Muslim
	20 (18.9)
	Other
	2 (1.9)
	Medical Doctor
	15 (14.2)
	Nurse
	53 (50)
	Laboratory Technician
	12 (11.3)
	Health officer
	2 (1.9)
	Midwifes
	10 (9.4)
	Pharmacy professionals
	14 (13.2)
	Amhara
	104(98.1)
	Oromo
	1(0.94)
	Tigray
	1(0.94)

Table 2: Knowledge level of the health care workers in Woldia General Hospital, Woldia, 2015

Knowledge questions	Response	Frequency (%)
From what source you got the information	Training	55(51.9)
	Mass media	10 (9.4)
	Friends	16 (15.1)
	Journals	6 (5.7)
	Other	3 (2.8)
	Multiple answer	11 (10.4)
When do you think PEP should be indicated?	When the source patient is at high risk for HIV	26 (24.5)
	When the patient is known to be HIV positive	38 (35.8)
	When the HIV status of the source is unknown	14 (13.2)
	For any needle stick injury in the work place	25(23.4)
	Multiple answer	3 (2.8)
What is the maximum delay to take PEP?	12 hour	10 (9.4)
	24 hour	11 (10.4)
	48 hour	8 (7.5)
	72 hour	77 (72.6)
What is the preferable time to take PEP?	Within an hour	59 (55.7)
	After 6 hour of exposure	7 (6.6)
	After 12 hour of exposure	13 (12.3)
	After 72 hour of exposure	27 (25.5)
What is the Effectiveness of PEP	100%	13 (12.3)
	80-100%	65(61.3)
	60-70%	17 (16.0)
	30-50%	9 (8.5)
	20-30%	2 (1.9)
What is the length of time to take PEP?	For 28 days	83 (78.3)
	For 40 days	12 (11.3)
	For six months	8 (7.5)
	For life time	3 (2.8)
What is the frequency of NSI per a year?	1-2	38(35.8)
	3-4	43(40.6)
	5-6	25(23.6)
Do you know the universal precaution guide lines?	yes	65(61.3)
	No	41(38.7)

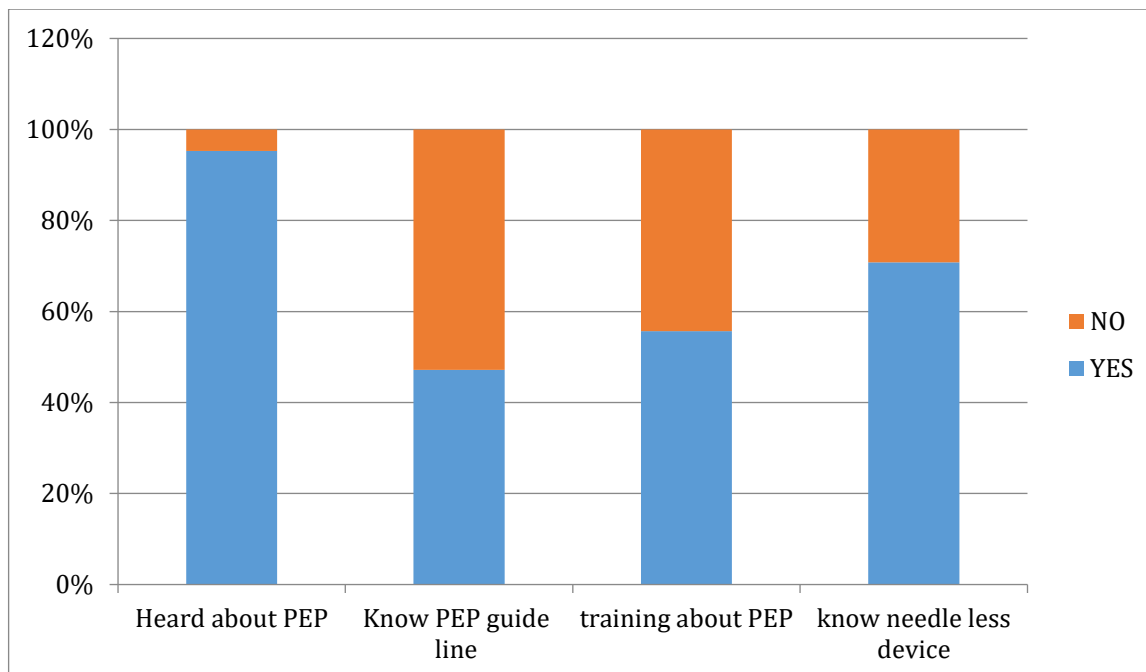


Figure 1 knowledge levels of health care workers in Woldia General Hospital, Woldia, 2015

Table 3 Attitudes of the health care workers about PEP for HIV in Woldia General Hospital, Woldia, 2015

Questions	Response	Frequency
Do you think PEP is Important?	Yes	105 (99.1)
	No	1 (.9)
Do you believe that training of PEP is important for a behavioral change?	Agree	102 (96.2)
	Disagree	9 (4.6)
Do you think there should be PEP guideline in work areas?	Agree	70 (66.0)
	Disagree	8 (7.5)
	Strongly agree	18 (16.7)
	No comment	10 (9.4)
Do you believe PEP reduces likelihood of being HIV positive	Yes	83 (78.3)
	No	15 (14.2)
	I am not sure	8 (7.5)
Do you believe PEP to prevent further infection?	Agree	29 (27.4)
	Disagree	63 (59.4)
	Partially agree	14 (13.2)
How do you see the saying that PEP is indicated for any type of sharp injuries	Agree	33 (31.1)
	Disagree	47 (44.3)
	I am not sure	26 (24.5)
What is your opinion on the believe that PEP is not important if the exposure is not with patient blood of known HIV positive	Agree	16 (15.1)
	Disagree	79 (74.5)
	I am not sure	11 (10.4)

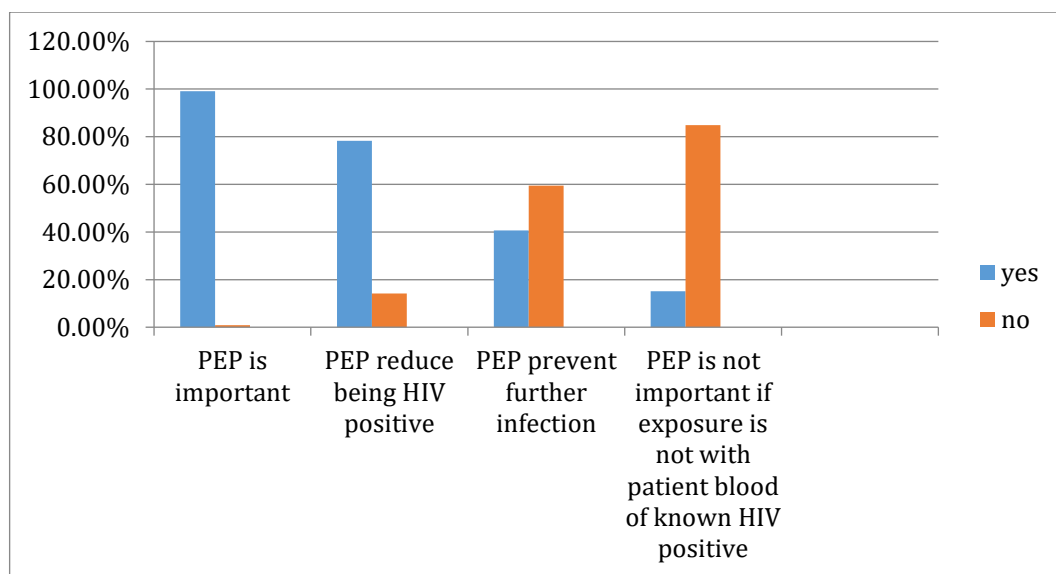


Figure 2: Attitude of the health care workers about PEP for HIV in Woldia General Hospital, Woldia, 2015

Table 4: Practice status of the health care workers towards PEP for HIV in Woldia General Hospital, Woldia, 2015

Questions	Responses	Frequency
Ever been exposed to HIV risky conditions	Yes	29 (27.4)
	No	64 (60.4)
	I do not remember	13 (12.2)
Which type of exposure you encounter in your work place?	Skin contact	69 (65.1)
	Needle stick	17 (16.0)
	Cut from sharp instrument.	20 (18.9)
Every hospitalized patient should be tested for HIV	Agree	86 (81.1)
	Disagree	20 (18.9)
To protect HCWs is important than confidentiality of patients status	Agree	92 (86.8)
	Disagree	14 (13.2)
HCWs should be able to refuse to care for HIV/AIDS patients	Agree	3 (2.8)
	Disagree	103 (97.2)
HIV positive HCWs should not practice	Agree	35 (33)
	Disagree	71 (67)
using appropriate barrier when working with every patient	Agree	89 (84)
	Disagree	17 (16.0)
Additional protection if HIV status of patient is known	Agree	95 (89.6)
	Disagree	11 (10.4)
Did you complete the prescribed drug of PEP	Yes	26 (89.7)
	No	3 (10.3)
If the above is NO what is the reason for discontinue	fear of adverse effects	2 (66.7)
	Assuming that the drug was not effective	1 (33.3)
	Assuming that it was enough	-
Which activity you perform when you encounter NSI	Drawing out blood from pricked site	15 (14.2)
	Washing the site from running water	25 (23.6)
	Washing the site from antiseptic	58 (54.7)
	Pressing the sit being prinked	8 (7.5)

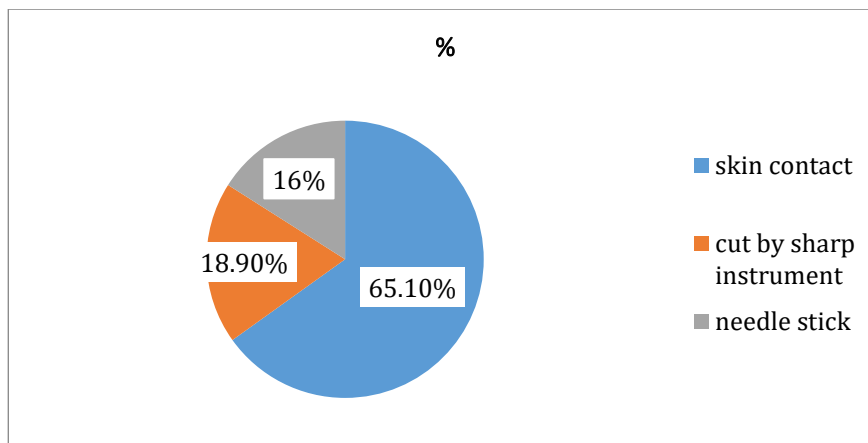


Figure3: Practice status of the health care workers in Woldia General Hospital, Woldia, 2015

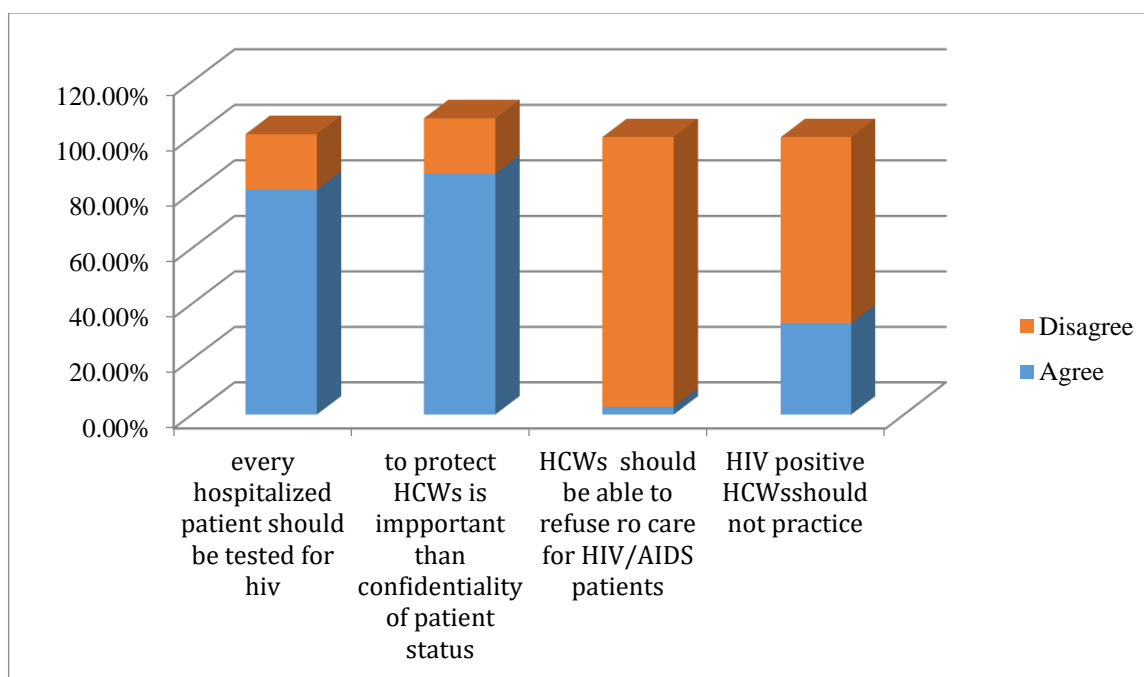


Figure 4 Practice statuses of the health care workers in Woldia General Hospital, Woldia, 2015

RESULT

Socio demographic characteristics of HCWs in Woldia general hospital

A total of 123 health care workers were required to fill the questioner but only 106 were filled. So that 13.28% was the non-response rate of this study. Total of 67 (63%) males and 39 (37%) females responded in this study. Most of respondents 71 (67.0 %) were in the age group 20 to 30 years. Regarding year of service of HCWs, 49(46.2%), 31(29.2%), 23 (21.7%), 3 (2.8%) served for <5 years, 6-10 years, 11–15 years and more than 16years

respectively .Most of the respondents 104(98.1%) were Amhara. Majority 53(50%) of the respondent were nurses and 59(55.7) were married (table 1).

Knowledge level of the HCWs about PEP for HIV

In general, majority, 73 (68.9%), of the participants of the study had adequate knowledge about PEP for HIV. The proportion of respondent who heard about PEP of HIV was 101(95.28) from any source but from formal training was 55(51.9%). From the study

participants 65(61.3%) answered that PEP for HIV is efficient and 59 (55.7%) knew when to initiate PEP for HIV. 77 (72.6%) of the respondents knew the maximum acceptable delay to take PEP for HIV and 81 (76.4%) knew for how long exposed individuals should be on PEP to prevent infection. Among the participants of the study 50(47.2), 75(70.8) and 59(55.7) knew about PEP guide line, needless safety and attained any training about PEP (Figure 1).

Attitude of the HCWs about PEP for HIV

Majority of the respondent, 105 (99.1%) and 88(83.0%), agreed on the importance of PEP for HIV and the availability of PEP guidelines in the hospital or in their work place. When we assessed the respondents about their belief on PEP for HIV to reduces the likelihood of being infected by HIV after being exposed, 83 (78.3%) of them had strong believe that it can reduce the probability to be infected and also 29 (27.4%) of the respondents agreed that PEP prevent further infection. The believe that PEP may be indicated for any type of sharp object injuries was also assessed among the respondents and it was observed that 33 (31.1%) of the respondents had that believe but the majority, 47(44.3%), of the study participants did not agree on it and the rest of the study participants 26 (24.5%) were not sure about it. When we assessed the belief that PEP is not important if the exposure is not with patient blood of known HIV positive 16(15.1%) agreed but the majority 79(74.5) disagreed that believe and the remained 11(10.4) were not sure about it (figure 2).

Practice status of the HCWs towards PEP for HIV

Among all of the respondents, 29/106 (33.8%) were exposed for HIV risky conditions and of these exposed respondents, 26/29 (89.7%) took PEP. However, 3/29 (10.3%) of the exposed respondent did not take PEP. Among the respondents who took exposure encounter in work place 69 (65.1%) was from Skin contact, 20 (18.9%) was Cut from sharp instrument and 17 (16.0%) was from Needle stick. The reasons for the discontinuity of taking the PEP was found to be fear of its

efficacy and the adverse effects 1/3(33.3%), 2/3 (66.7%) respectively. When we assessed the respondent 86(81.1%) agreed on every hospitalized patient should be tested for HIV and 103(97.2%) disagreed that HCWs should be able to refuse to care for HIV/AIDS patients (figure 3).

DISCUSSION

This study assessed the knowledge, attitude and practice towards PEP for HIV among HCWs who were directly involved in care of patients in Woldia General Hospital which is located northeast of Ethiopia.

In the present study, among all study participants 95.3% have heard about PEP for HIV. When we compare it with other study which was conducted in tertiary hospital in Nigeria (97%), it was found that more percentage of the study participants in the present study had been found who heard about PEP [7].

Regarding when to start PEP for HIV, in the present study 55.7% of the total respondents responded stating PEP should be taken within one hour which is higher than other findings from study conducted in Mulago Hospital in Uganda with only 22.3% being sure it should be started within an hour of exposure [8]. However when we observe a study conducted in Mumbai it showed that 64% of the respondent correctly stated when to start PEP in which it is greater than the present study [9]. The difference might be because of the difference on the level of awareness among the different populations. The proportion of knowledgeable participants on when to start PEP for HIV is still low because only 55.7 the respondents stated it correctly. Therefore, if the remaining 44.3% of the respondents exposed for HIV risky conditions, they might took PEP after very long period of time so that they will be important sources of transmitting HIV [10].

A study conducted in Zimbabwe showed that 65% of the respondents scored less than 50% of the questions regarding knowledge which was regarded as poor knowledge [11]. In the present study the percentage of the respondents with poor knowledge is 32.1%

which indicated that it is better than the findings of the study conducted in Zimbabwe. However, this level of poor knowledge cannot be considered low.

In the present study, from 106 subjects, 29 (27.4%) of the respondents have been exposed for HIV risky conditions. This finding is less than the result found in a study conducted in south India in which 74.5% of respondents were exposed [12].

However, the number of HCWs that have ever been exposed to HIV risky conditions in the present study could not be considered as low since in Italy a study indicated only 11.3% of occupational exposure which is lower than the present study [13]. Generally the difference between the present study and the others might be due to the difference in the setting.

The study participants that were informed about the universal precautions guidelines in this study were 61.3%. In contrary to this finding, the study conducted in Serbia [4] discovered that 80% of the health care workers had not been informed. This might be due to variation in training to healthcare workers on universal precaution to decrease the rate of occupational exposure.

In this study, 89.7% of these respondents were able to complete the regimen of the drug which requires 28 days. This finding was contrary with other study conducted in Dare Salaam in which they showed that 40% of the respondents failed to use PEP for the full length of time prescribed [14].

However, study conducted in Gujarat showed that their respondents had better practice in this regard than our study participants in which more than 94% were able to complete the regimen [15]. This fact alerts that the practice of PEP for HIV in the study area needs improvement.

Regarding the mode of exposure to human immunodeficiency virus this study revealed that 16% of the healthcare workers experienced needle stick injury, 65.1% skin contact, and 18.9% of them experienced cut

from sharp instrument. This result was less than with the study conducted in Northern Uganda [16] which was 27.7% of the healthcare workers experienced needle stick injury and less than the study done in Serbia [6], which was 89% had needle stick injury.

Reasons for the observed difference of findings between different research results might be due to the difference in the level of awareness between the different population, economic difference of the study population and time difference of the studies.

CONCLUSION

In general, the findings of this study revealed the gap that knowledge as well as practice of HCWs towards PEP for HIV is inadequate. Even though many of the HCWs had HIV risky exposure, the number of HCWs that were exposed but did not take the PEP for HIV cannot be considered as low. Therefore, a formal training for all HCWs regarding PEP for HIV should be provided to improve their knowledge and also establishing a 24 hours accessible formal PEP center with proper guideline is recommended so that their practice towards utilization of PEP can be improved. Besides, new strategies must be developed to reduce the risk of occupational exposure.

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